CLAIMS

What is claimed is:

1. A method for providing dynamic network information, the method implemented in an apparatus in a digital network, the method comprising the steps of:
   determining network information related to a received transport stream; and
   transmitting the network information.

2. The method of claim 1, wherein the network information includes the transport stream identifier for the received transport stream.

3. The method of claim 1, wherein the network information includes transport stream information related to the received transport stream.

4. The method of claim 3, wherein the transport stream information includes information related to the type of information contained in the received transport stream.

5. The method of claim 1, further including the steps of:
   identifying the apparatus receiving the transport stream; and
   making a dynamic network information table that includes the identification of the apparatus receiving the transport stream and the network information related to the received transport stream.

6. The method of claim 5, wherein the transmitted network information is included in the dynamic network information table, and the dynamic network information table is transmitted from the apparatus.

7. The method of claim 6, wherein the apparatus is a first apparatus and the received transport stream is a first transport stream, and further including the step of:

receiving a second dynamic network information table in the first received transport stream, wherein the second dynamic network information table includes network information related to a second transport stream, the second transport stream is received by a second apparatus, and the second apparatus transmits the first transport stream to the first apparatus; and

prior to transmitting the first dynamic network information table from the first apparatus, including at least a portion of the second dynamic information table in the first dynamic network information table.

8. The method of claim 7, wherein the second dynamic network information table includes network information related to the second transport stream.

9. The method of claim 8, wherein the second dynamic network information table includes the transport stream identifier of the second transport stream.

10. The method of claim 7, wherein the first apparatus is configured to receive the first transport stream through a first communication link and transmit the first dynamic network information table through a second communication link.

11. The method of claim 10, wherein the first dynamic network information table is included in a third transport stream transmitted through the second communication link.

12. The method of claim 1, wherein the apparatus receives the transport stream through a first communication link; and further including the steps of:

determining the available bandwidth of the first communication link; and

including the available bandwidth in the network information that is transmitted from the apparatus.

13. The method of claim 1, further including the step of:
   periodically transmitting the network information.

14. The method of claim 1, wherein the apparatus receives the transport stream through a first communication link, and further including the steps of:
   determining a first set of values from the network information;
   monitoring the first communication link to determine a second set of network information values; and
   responding to a change between the first set of network information values and the second set of network information values by transmitting the second set of network information values through a second communication link.

15. The method of claim 1, further including the steps of:
   periodically receiving a dynamic network information table in the received transport stream; and
   responding to a change in the periodicity of the received dynamic network information tables by sending an alert message.

16. A method for enabling a receiver in a digital subscriber network to request services provided by the digital subscriber network, the method comprising the steps of:
   receiving a dynamic network information table at the receiver, the dynamic network information table including network information from at least one upstream device; and
   transmitting a request for a service, the requested service including at least a portion of the information included in the dynamic network information table.

17. The method of claim 16, further including the steps of:
   identifying from the dynamic network information table and upstream device associated with the requested service; and
   including the identification of the associated device in the transmitted request for the service.

18. The method of claim 17, further including the step of:

identifying a controller associated with the identified upstream device; and

wherein the request for the service is transmitted to the controller.

19. The method of claim 16, further including the steps of:

determining a communication path through the digital subscriber network for the requested service; and

including the communication path in the transmitted request for the service.

20. The method of claim 19, wherein the communication path is determined based upon network information included in the received dynamic network information table.

21. The method of claim 20, wherein the dynamic network information table includes available bandwidth of at least one upstream communication link in the digital subscriber network.

22. The method of claim 16, wherein the dynamic network information table includes network information from a plurality of upstream devices.

23. The method of claim 16, wherein the dynamic network information table includes network information from a source of a network transport stream.

24. The method of claim 16, wherein the dynamic network information table is included in a transport stream received at the receiver.

25. The method of claim 24, wherein the dynamic network information table is included in a packet having a reserved packet identifier associated therewith.

26. The method of claim 25, wherein the packet is a program association table packet.

27. A method for providing a receiver in a digital subscriber network with services provided by the digital subscriber network, the method comprising the steps of:

receiving from a receiver a request for a service, the request including network information;

processing the request for the service using the received network information; and

providing the requested service to the receiver.

28. The method of claim 27, wherein the receive network information includes an identifier for a device associated with the requested service.

29. The method of claim 28, wherein the requested service is a pay-per-view program and the device is a VOD server having the requested program stored therein.

30. The method of claim 27, wherein the network information includes information related to the available bandwidth through at least one communication link of the digital subscriber network.

31. The method of claim 30, wherein the network information includes information related to a device associated with requested service, and the device and the receiver are coupled by a first communication link that includes the at least one communication link and the receiver.

32. The method of claim 27, wherein the step of processing further includes the step of:

reading the receive network information to determine at least one device that is associated with the requested service.

33. The method of claim 32, wherein the at least one device is a plurality of devices, and further including the step of:

    using information included in the receive network information to determine which particular device of the plurality of devices shall transmit the requested service to the receiver; and

    wherein the step of providing further includes:

sending a message to the particular device to initiate transmission of the requested service.

34. The method of claim 33, wherein the receive network information includes bandwidth information for communication links between the plurality of devices and the receiver, and the bandwidth information is used for determining the particular device.

35. An apparatus in a digital network coupled to a first communication link and a second communication, the apparatus comprising:

    an input port adapted to receive a transport stream through a first communication link;

    a processor in communication with the input port, the processor adapted to determine network information related to the received transport stream; and

    a transmitter in communication with the processor, the transmitter adapted to transmit the network information through the second communication link.

36. The apparatus of claim 35, wherein the processor is adapted to include the network information in a second transport stream, and the transmitter is adapted to transmit to second transport stream.

37. The apparatus of claim 36, wherein the second transport stream includes multiple elementary streams of the first transport stream.

38. The apparatus of claim 35, wherein the network information includes a transport stream identifier for the first transport stream.

39. The apparatus of claim 35, wherein the network information includes transport stream information related to the received transport stream.

40. The apparatus of claim 39, wherein the transport stream information includes information related to the type of information contained in the received transport stream.

41. The apparatus of claim 35, wherein the processor is further adapted to make a dynamic network information table having an identifier associated with the apparatus and the network information related to the received transport stream included therein, and the transmitter transmits the dynamic network information table through the second communication link.

42. The apparatus of claim 41, wherein the processor is further adapted to periodically make a dynamic network information table.

43. The apparatus of claim 41, wherein the received transport stream includes a second dynamic network information table, the second dynamic network information table includes network information related to a second transport stream and includes an identifier associated with a second apparatus, and wherein the processor is adapted to include at least a portion of the second dynamic network information table in the first dynamic network information table.

44. The apparatus of claim 43, wherein the second dynamic network information table is included in a program association table of the received transport stream.

45. The apparatus of claim 41, wherein the processor is adapted to include the dynamic network information table in a second transport stream, and the transmitter transmits the second transport stream.

46. The apparatus of claim 45, wherein the dynamic network information table is included in a program association table of the second transport stream.

47. The apparatus of claim 45, wherein the transmitter is a plurality of transmitters, each transmitter having an identifier associated therewith, and the processor is adapted to make a dynamic network information table having a transmitter identifier included therein for each transmitter.

48. The apparatus of claim 35, wherein the processor is further adapted to monitor the first communication link and respond to changes in the first communication link by generating an alert message and sending the alert message to the transmitter, wherein the transmitter transmits the alert message through the second communication link.